CLAIMS

1. A ceramic cooktop comprising:

a cooking plate made of a material selected from the group formed by a glass ceramic and a glass;

a thermally sprayed ceramic bonding layer adhering to a selected surface of said cooking plate;

a thermally sprayed electrically conducting intermediate layer located on said bonding layer;

a thermally sprayed insulating layer located on said intermediate layer; and

a thermally sprayed electric heat conductor layer located on said insulating layer;

wherein said insulating layer consists of a plurality of layers having porosities that diminish toward the heat conductor layer.

2. The ceramic cooktop of claim 1, wherein said electrically conducting intermediate layer is connected to ground.

3. The ceramic cooktop of claim 1, wherein said insulating layer consists of a material selected from the group formed by cordierite and mullite.

4. The ceramic cooktop of claim 1, wherein said layers each occupy an area diminishing toward the heat conductor layer.

5. A ceramic cooktop comprising:

a cooking plate made of a material selected from the group formed by a glass ceramic and a glass;

a thermally sprayed electric heat conductor layer;

a thermally sprayed insulating layer arranged between said cooking plate and said heat conductor layer; and

an electrically conducting intermediate layer arranged between said cooking plate and said insulating layer;

wherein said insulating layer consists of a plurality of layers having porosities that diminish toward the heat conductor layer.

6. The ceramic cooktop of claim 5, wherein said cermet material has a metal matrix comprising at least one component selected from the group formed by nickel, cobalt and chromium.

7. The ceramic cooktop of claim 5, wherein said cermet material has a metal matrix being configured as an alloy comprising the major components nickel, cobalt and chromium.

8. The ceramic cooktop of claim 5, wherein said cermet material further comprises carbide particles dispersed within said metal matrix.

9. The ceramic cooktop of claim 8, wherein said carbide particles are selected from the group formed by tungsten carbide and chromium carbide.

10. The ceramic cooktop of claim 5, further comprising a ceramic bonding layer located between said electrically conductive intermediate layer and said cooking plate.

11. The ceramic cooktop of claim 11, wherein said ceramic bonding layer is configured as a thermally sprayed material

selected from the group formed by aluminum oxide, titanium oxide and mixtures thereof.

12. The ceramic cooktop of claim 5, wherein said insulating layer consists of a material selected from the group formed by cordierite and mullite.

13. The ceramic cooktop of claim 11, wherein said bonding layer is a thermally sprayed layer.

14. The ceramic cooktop of claim 11, wherein said layers each occupy an area diminishing toward the heat conductor layer.

15. A ceramic cooktop comprising:

a cooking plate made of a material selected from the group formed by a glass ceramic and a glass;

an electric heat conductor layer; and

an insulating layer arranged between said cooking plate and said heat conductor layer;

wherein said insulating layer consists of a plurality of layers having porosities that diminish toward the heat conductor layer.

16. A ceramic cooktop comprising:

a cooking plate made of a material selected from the group formed by a glass ceramic and a glass;

a bonding layer arranged on a selected surface of said cooking plate;

an insulating layer arranged on said bonding layer; and

an electric heat conductor layer;

wherein said insulating layer consists of a plurality of layers having porosities that diminish toward the heat conductor layer.

17. The ceramic cooktop of claim 15, further comprising an electrically conductive intermediate layer between said cooking plate and said insulating layer.

18. The ceramic cooktop of claim 17, wherein said electrically conductive intermediate layer is configured as an oxide layer that is rendered electrically conductive by oxygen loss during thermal spraying.

19. The ceramic cooktop of claim 17, wherein said intermediate layer consists of a cermet material having a metal matrix comprising at least one component selected from the group formed by nickel, cobalt and chromium.

20. The ceramic cooktop of claim 19, wherein said cermet material has a metal matrix being configured as an alloy comprising the major components nickel, cobalt and chromium.

21. The ceramic cooktop of claim 17, wherein said intermediate layer consists of a cermet material having a metal matrix comprising carbide particles dispersed within said metal matrix.

22. The ceramic cooktop of claim 21, wherein said carbide particles are selected from the group formed by tungsten carbide and chromium carbide.

23. The ceramic cooktop of claim 16, wherein said plurality of insulating layers consist of a material selected from the group formed by cordierite and mullite.

24. The ceramic cooktop of claim 23, wherein said plurality of insulating layers are thermally sprayed layers.

25. The ceramic cooktop of claim 16, wherein said layers each occupy an area diminishing toward said heat conductor layer.

26. The ceramic cooktop of claim 25, wherein said layers are centered with respect to each other.

27. The ceramic cooktop of claim 26, wherein said layers are arranged concentrically with respect to each other.

28. The ceramic cooktop of claim 16, wherein each of said layers comprises a rim section verging into a rim section of an adjacent layer.

29. The ceramic cooktop of claim 16, wherein each of said insulating layer consists of a material selected from the group formed by aluminum oxide, mullite, cordierite, aluminum oxide with additions of titanium oxide, zirconium oxide, mixtures of zirconium oxide and magnesium oxide.

30. A ceramic cooktop comprising:

a cooking plate made of a material selected from the group formed by a glass ceramic and a glass;

a bonding layer arranged on a selected surface of said cooking plate;

an electrically conductive intermediate layer arranged on said bonding layer;

an insulating layer arranged on said electrically conductive intermediate layer; and

an electric heat conductor layer arranged on said insulating layer;

wherein said insulating layer consists of a plurality of layers having porosities that diminish toward the heat conductor layer.

31. The cooktop of claim 30, wherein said electrically conductive intermediate layer is grounded.

32. A method of producing a ceramic cooktop comprising the following steps:

providing a cooking plate made of a material selected from the group formed by a glass ceramic and a glass;

producing an electrically conductive intermediate layer by thermally spraying onto said cooking plate an electrically conducting material selected from the group formed by a ceramic and a cermet;

applying an electrically insulating layer onto said intermediate layer; and

applying an electric heat conductor layer onto said electrically insulating layer.

33. The method of claim 32, wherein said intermediate layer is produced by thermal spraying of an oxide material that

is rendered electrically conductive by oxygen loss during thermal spraying.

34. The ceramic cooktop of claim 32, wherein said intermediate layer is produced by thermal spraying of a cermet material having a metal matrix comprising at least one component selected from the group formed by nickel, cobalt and chromium.

35. A method of producing a ceramic cooktop comprising the following steps:

providing a cooking plate made of a material selected from the group formed by a glass ceramic and a glass;

producing an electrically conductive intermediate layer by thermally spraying onto a selected surface of said cooking plate an electrically conducting material selected from the group formed by a ceramic and a cermet;

applying an electrically insulating layer onto said intermediate layer; and

applying an electric heat conductor layer onto said electrically insulating layer.

36. The method of claim 35, wherein said intermediate layer is produced by thermal spraying of an oxide material that is rendered electrically conductive by oxygen loss during thermal spraying.

37. A method of producing a ceramic cooktop comprising the following steps:

providing a cooking plate made of a material selected from the group formed by a glass ceramic and a glass;

applying a first electrically insulating layer onto said intermediate layer;

applying a second electrically insulating layer onto said first electrically insulating layer; and

applying an electric heat conductor layer onto said electrically insulating layer;

wherein said first and second electrically insulating layers are produced with different porosities, the porosity of said first insulating layer being larger than the porosity of said second insulating layer.

38. A method of producing a ceramic cooktop comprising the following steps:

providing a cooking plate made of a material selected from the group formed by a glass ceramic and a glass;

applying a ceramic bonding layer by thermal spraying onto said cooking plate;

applying an electrically insulating layer onto said bonding layer; and

applying an electric heat conductor layer onto said electrically insulating layer.

39. The method of claim 38, further comprising the step of applying onto said cooking plate an electrically conductive intermediate layer before applying said electrically insulating layer.

40. The method of claim 39, wherein said intermediate layer is produced by thermal spraying of an oxide material that is rendered electrically conductive by oxygen loss during thermal spraying.